

IN THE SPECIFICATION

Please replace the paragraph beginning at page 1, line 23 with the following amended paragraph:

Some proteins identified in the lumen of the ER, such as BiP, protein disulfide isomerase, calreticulin, and endoplasmin, are also involved in the regulation of calcium. These proteins do not have the EF-hand motif; they are retained in the lumen by a membrane-bound receptor. The receptor retrieves the luminal ER proteins from Golgi apparatus to the ER lumen by recognizing their carboxy-terminal tetrapeptide, Lys-Asp-Glu-Leu (KDEL) (KDEL; SEQ ID NO:5) or His-Asp-Glu-Leu (HDEL) (HDEL; SEQ ID NO:6). An exception to these ER proteins is reticulocalbin, a luminal protein of the ER which possesses both the EF-hand motif and the ER-retention signal, HDEL (SEQ ID NO:6) (Ozawa, M. and Muramatsu, T. (1993) J. Biol. Chem. 268:699-705; Ozawa, M. (1995) J. Biochem. 117:1113-1119). In fact, the mouse reticulocalbin, a 44 kDa protein, has six repeats of the EF-hand motif. The human reticulocalbin, which shares 95% identity with its mouse homolog, was cloned using the mouse gene (Ozawa, supra).

Please replace the paragraph beginning at page 10, line 8 with the following amended paragraph:

In one embodiment, the invention encompasses a polypeptide comprising the amino acid sequence of SEQ ID NO:1, as shown in Figures 1A, 1B, and 1C. HCBP is 328 amino acids in length. It has six calcium-binding EF-hand motifs encompassing residues A90-L102, D126-L138, D76-L88, D213-Y225, D254-V266, and D290-I302, and the conserved ER lumen retention signal HDEL (SEQ ID NO:6). HCBP has one potential N-glycosylation site encompassing residues N140-Y143, eight potential casein kinase II phosphorylation sites encompassing residues T72-E75, S98-E101, T127-D130, T184-E187, T208-D211, S289-D292, T291-D294, and S298-E301, and four potential protein kinase C phosphorylation sites encompassing residues T127-R129, T160-K162, T244-R246, and T291-K293. HCBP has chemical and structural homology with a human reticulocalbin (GI 1262329; SEQ ID NO:3) and a mouse reticulocalbin (GI 220582; SEQ ID NO:4). In particular, HCBP shares 51% and 54% identity with the human and the mouse reticulocalbin, respectively. As illustrated by Figures 3A and 3B, HCBP and the

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human reticulocalbin have rather similar hydrophobicity plots. Northern analysis shows the expression of this sequence in various cDNA libraries characterized by active cell proliferation, at least 75% of which are immortalized or cancerous and 18% of which are fetal.

Please replace the Sequence Listing of the application with the Substitute Sequence Listing submitted herewith.